

WHAT IS CLAIMED IS:

1. A peptide compound having the sequence
Lys-Pro-Ser-Ser-Pro-Pro-Glu-Glu [SEQ ID NO:2]
or a substitution variant, addition variant or other chemical derivative thereof, which
5 peptide, variant or derivative is capped or uncapped,
wherein said peptide, variant or derivative has one or more of the following
activities:
- (a) has at least about 20% of the biological activity of
Ac-Lys-Pro-Ser-Ser-Pro-Pro-Glu-Glu-Am in one or more of the
10 following *in vitro* bioassays: (i) invasion in a Matrigel® assay;
(ii) endothelial tube formation on Matrigel®, or (iii) endothelial tube
formation on a fibrin matrix in the presence of basic fibroblast growth
factor and vascular endothelial growth factor; or
- (b) competes with labeled Ac-Lys-Pro-Ser-Ser-Pro-Pro-Glu-Glu-Am for
15 binding to a cell or molecule which has a binding site for
Ac-Lys-Pro-Ser-Ser-Pro-Pro-Glu-Glu-Am.
2. A peptide according to claim 1 capped with an N-terminal acetyl
group and a C terminal amide group.
3. A substitution or addition variant of a peptide according to claim 1, or
20 a chemical derivative of the variant, which variant has a sequence selected from the
group consisting of:
- (a) SEQ ID NO:2 wherein the Glu at position 7 or 8 or both is replaced by
one or any two of the substituent amino acids Gln, Asp or Asn;
- (b) SEQ ID NO:2 wherein Ser at position 3 or 4 or both is replaced by one
25 or any two of the substituent amino acids Thr, Ala, Gly, hSer or
ValβOH;

- (c) SEQ ID NO:2 wherein the Lys at position 1 is replaced by His, Arg, Gln, Orn, Cit or Hci;
- (d) SEQ ID NO:2 wherein the Pro at position 2, 5 or 6 is replaced by Hyp;
- (e) an addition variant of SEQ ID NO:2, wherein Leu, Ile, Val, Nva, Nle, Met, Ala, or Gly is added to the C-terminal Glu or to any of said substituents for Glu at position 8;
- (f) an addition variant of SEQ ID NO:2, wherein any of the following peptides are added to the C-terminal Glu or to any of said substituents for Glu at position 8:

Leu-(Gly)_n; Ile-(Gly)_n; Val-(Gly)_n; Nva-(Gly)_n; or Nle-(Gly)_n,
wherein n = 1-10;

- (g) an addition variant of SEQ ID NO:2 wherein one or more of the following residues or peptides is added to the N-terminal Lys or to any of said N-terminal substituents of Lys at position 1:

Gly, Lys-(Gly)_n; Tyr-(Gly)_n; or Gly-(Gly)_n, wherein n = 1-10;
and

- (h) a combination of one or more of (a) - (g).

4. A compound according to claim 1 which is a peptidomimetic agent.

5. A multimer of a peptide or variant according to claim 1 which, when the peptide is not a variant, has the formula:

(Lys-Pro-Ser-Ser-Pro-Pro-Glu-Glu-X_m)_n-Lys-Pro-Ser-Ser-Pro-Pro-Glu-Glu
wherein X is selected from the group consisting of C₁-C₂₀ alkyl, C₁-C₂₀ alkenyl, C₁-C₂₀ alkynyl, C₁-C₂₀ polyether containing up to 9 oxygen atoms and Gly_z, and
wherein m = 0 or 1, n = 1-100 and z = 1-10.

6. A pharmaceutical composition useful for inhibiting (i) invasion of tumor cells or (ii) angiogenesis, comprising

- (a) a peptide, variant or derivative according to claim 1; and
- (b) a pharmaceutically acceptable carrier or excipient.

5 7. A pharmaceutical composition useful for inhibiting (i) invasion of tumor cells or (ii) angiogenesis, comprising

- (a) a peptide, variant or derivative according to claim 2; and
- (b) a pharmaceutically acceptable carrier or excipient.

10 8. A pharmaceutical composition useful for inhibiting (i) invasion of tumor cells or (ii) angiogenesis, comprising

- (a) a peptide, variant or derivative according to claim 3; and
- (b) a pharmaceutically acceptable carrier or excipient.

9. A pharmaceutical composition useful for inhibiting (i) invasion of tumor cells or (ii) angiogenesis, comprising

- 15
- (a) a peptidomimetic according to claim 4; and
 - (b) a pharmaceutically acceptable carrier or excipient.

10. A pharmaceutical composition useful for inhibiting (i) invasion of tumor cells or (ii) angiogenesis, comprising

- 20
- (a) a peptide multimer according to claim 5; and
 - (b) a pharmaceutically acceptable carrier or excipient.

11. A method for inhibiting the invasiveness of tumor cells comprising contacting said cells with an effective amount of a peptide, variant or derivative according to claim 1.

12 A method for inhibiting cell migration, invasion, migration-induced
cell proliferation or angiogenesis in a subject having a disease or condition associated
with undesired cell migration, invasion, migration-induced proliferation, or
angiogenesis, comprising administering to said subject an effective amount of a
5 pharmaceutical composition according to claim 6.

13. A method according to claim 12 wherein said disease or condition is
primary tumor growth, tumor invasion or metastasis, atherosclerosis, post-balloon
angioplasty vascular restenosis, neointima formation following vascular trauma,
vascular graft restenosis, fibrosis associated with a chronic inflammatory condition,
10 lung fibrosis, chemotherapy-induced fibrosis, wound healing with scarring and
fibrosis, psoriasis, deep venous thrombosis, or another disease or condition in which
angiogenesis is pathogenic.

14. A method according to claim 13 wherein said disease is tumor growth,
invasion or metastasis.

15